

READING THE METER

*A look inside a cleaner, safer,
smarter auto industry.*



ALLIANCE FOR AUTOMOTIVE INNOVATION

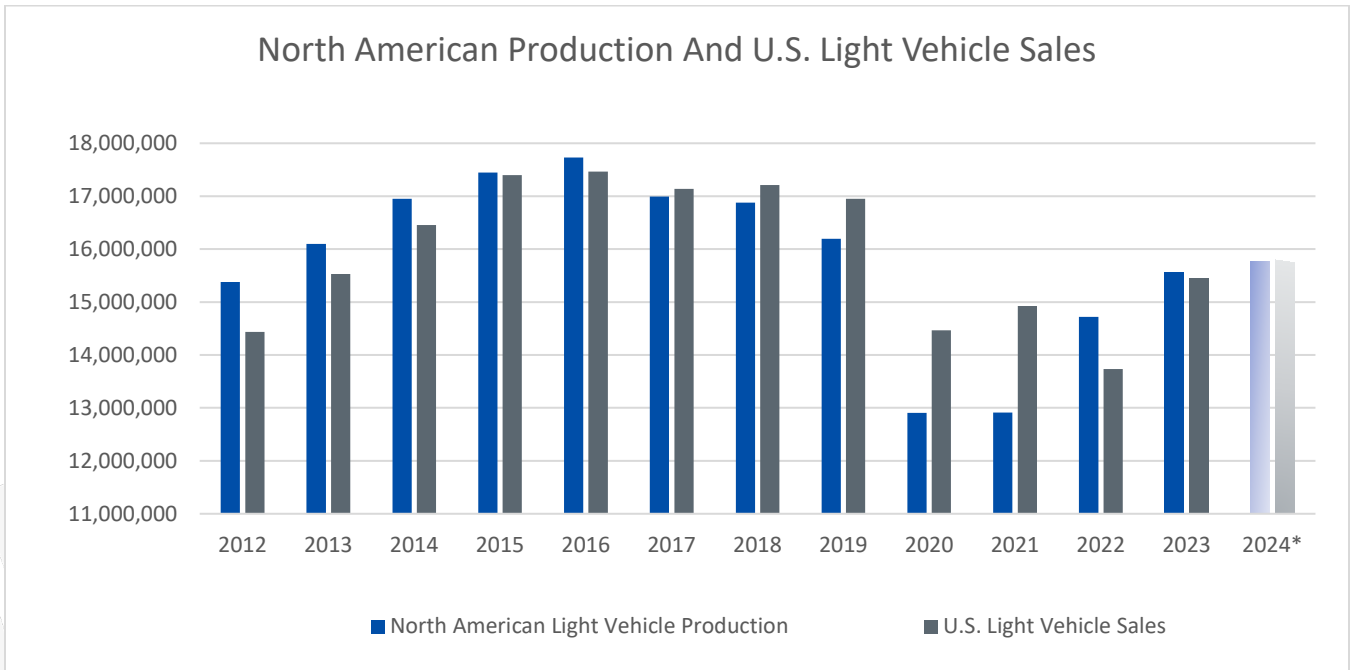
Contents – October 24, 2024

Forecast Meter	2
Sales & Production Summary and Forecast (Updated 10/24)	2
U.S. Light Vehicle Sales Outlook (Updated 10/24)	3
North American Production & Inventory Outlook (Updated 10/24)	4
Market Meter	5
U.S. Light Vehicle Sales (Updated 10/3)	5
Segments vs. Gas Prices (Updated 10/3)	7
EV Powertrain Sales (Updated 10/3)	8
Seasonally Adjusted Annual Rates (Updated 10/3)	9
Average Transaction Price (Updated 10/24)	10
Auto Loan Financing (Updated 10/3)	11
Crude Oil and Gas Prices (Updated 10/3)	12
Production Meter	13
U.S. Light Vehicle Inventory and Days' Supply (Updated 10/3)	13
North American Production (Updated 10/24)	14
U.S. Light Vehicle Production (Updated 10/24)	15
Global Meter	16
Global Light Vehicle Sales (Updated 10/3)	16
Global Light Vehicle Production (Updated 10/24)	18
Recovery Meter	20
Roadway Travel (Updated 9/9)	20
Consumer Confidence and Sales (Updated 10/3)	21
Employment (Updated 10/24)	21
Sources	23

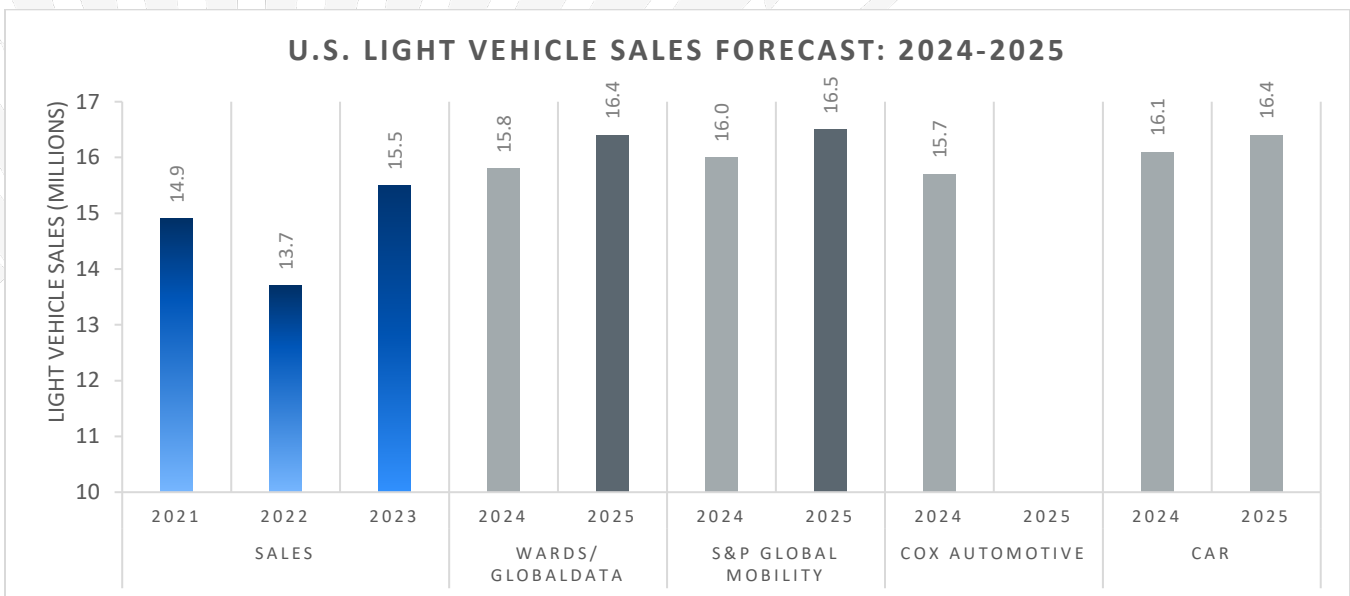
Forecast Meter

Sales & Production Summary and Forecast (Updated 10/24)

2023-2024 Sales, ¹ Extended Sales Forecast ² and Production Forecasts ³		
	U.S. Sales & Forecasts	North American Production
January '23	1,033,002 (+4.2% YoY)	1,195,548 (+12.9% YoY)
February '23	1,136,332 (+8.7% YoY)	1,257,482 (+15% YoY)
March '23	1,365,966 (+8.6% YoY)	1,442,991 (+6.7% YoY)
April '23	1,347,159 (+13.1% YoY)	1,281,626 (+8.6% YoY)
May '23	1,362,019 (+18.0% YoY)	1,462,273 (+25.5% YoY)
June '23	1,370,976 (+19.9% YoY)	1,387,090 (+13.8% YoY)
July '23	1,299,199 (+19.9% YoY)	1,173,342 (+15.6 YoY)
August '23	1,328,526 (+12.8% YoY)	1,467,284 (+4.5% YoY)
September '23	1,331,952 (+13.9% YoY)	1,353,072 (+7.6% YoY)
October '23	1,200,286 (+5.7% YoY)	1,388,720 (+4.5% YoY)
November '23	1,218,647 (+7.3% YoY)	1,372,253 (+8.1 YoY)
December '23	1,433,266 (+17.3 YoY)	1,082,176 (-2.3% YoY)
January '24	1,076,047 (-1.3% YoY)	1,327,765 (+7.8% YoY)
February '24	1,247,516 (+5.2% YoY)	1,358,836 (+10% YoY)
March '24	1,438,012 (+4.6% YoY)	1,414,502 (-5.7% YoY)
April '24	1,313,512 (+0.6% YoY)	1,473,567 (+15.9% YoY)
May '24	1,429,028 (+0.8% YoY)	1,485,373 (-1.7% YoY)
June '24	1,321,932 (-3.4% YoY)	1,346,584 (-6.1% YoY)
July '24	1,273,115 (-2.0% YoY)	1,117,833 (-4.4% YoY)
August '24	1,419,245 (+3.8% YoY)	1,428,177 (+32.6% YoY)
September '24	1,169,908 (-1.4% YoY)	1,399,608 (+0.8% YoY)
2023 Full Year	15,457,447 (+12.4% YoY)	16,144,461 (+9.3% YoY) (U.S. 10,611,580)
2024 Estimate	15.8 M	15.77 (U.S. 10.8M)



U.S. Light Vehicle Sales Outlook (Updated 10/24)



Wards Intelligence Outlook (10/24)⁴: “The fourth quarter is forecast to total 4.13 million units, 6.0% above year-ago’s 3.89 million, which was tamped down because of labor-related strikes at three automakers that pared inventory

“After year-over-year declines in the prior two quarters ended five straight by-quarter increases, Q4 U.S. light-vehicle sales are tracking to begin the period with a small gain in October, based on daily selling rates.

“Raw volume in October is forecast to total 1.310 million units, 9.3% above same-month’s 2023’s 1.198 million, and equating to a 15.9 million-unit seasonally adjusted annual rate, slightly above the prior month’s 15.8 million and year-ago’s 15.3 million.

“The daily selling rate over the month’s 27 selling days equals 48,519 units, 1.2% above October 2023’s 47,926 – 25 selling days. The year-over-year gain will be only the second in the five months through October.

“Based on DSRs, retail volume is forecast to rise 1.0% year-over-year, accounting for 86.3% of total light-vehicle sales. Fleet deliveries are expected to rebound slightly from four straight downturns and increase 3.0% from October 2023.

“The fourth quarter is forecast to total 4.13 million units, 6.0% above year-ago’s 3.89 million, which was tamped down because of labor-related strikes at Ford, General Motors and Stellantis that pared inventory.

“The year is forecast to total 15.8 million units, 2.1% above 2023’s 15.5 million.”

North American Production & Inventory Outlook (Updated 10/24)

Wards Intelligence Inventory Outlook (10/24)⁵: “Oct. 31 inventory is forecast to rise 3.1% from September to 2.91 million units, 34.7% above like-2023, and highest for the month since 3.63 million in 2019. Oct. 31 days’ supply is pegged at 60, up from the prior month’s 55 and year-ago’s 45. If the forecast holds true, it will be the highest October days’ supply since 73 in 2019, which historically is typical for the month.”

Wards Intelligence Production Outlook (10/24)⁶: “Production of light vehicles and medium-/heavy-duty trucks for the Q4 outlook was increased 21,400 units from month-ago’s projection.

“Total Q4 output is tracking to 3.93 million units, 1.3% above year-ago, and a rebound from Q3’s 2.5% decline, which was the first since a 2.6% downturn in Q1-2022.

“The Q4 changes were driven by upward revisions to General Motors and Nissan – among others – that more than offset cuts at several automakers, chiefly Stellantis, Ford and Volkswagen. The upward revision at Nissan follows revisions to its Q3 production, which cut 40,000 units from its July-September total.”

S&P Global Mobility Outlook (10/24)⁷: “North America: The outlook for North America light vehicle production was reduced by 12,000 units and by 113,000 units for 2024 and 2025, respectively (and reduced by 104,000 units for 2026). The outlook for North America was revised down marginally for 2024. Steeper downgrades for 2025 and 2026 are mostly associated with program delays at Stellantis that were drivers supporting the growth outlook for the company in 2025. Production of the Dodge Charger, Jeep Wagoneer S, Recon, Cherokee and Compass, and the Ram 1500 REV and Ramcharger have all experienced rolling delays ranging from several weeks to several months. Conversely, Ford reported one of its most productive months in the post-COVID and semiconductor shortage era producing a noteworthy 15.9% more vehicles than previously forecasted for the month of September 2024. However, this unfortunately comes at a time that will likely fuel further inventory growth. At Tesla’s recent ‘We, Robot’ event, the all-new Cybercab was revealed in a surprising two-door, two-seat format with the company citing that most ride hailing services is for two or less people. Questions surround the legality of putting a fully autonomous vehicle on the road without regulated driver controls. Tesla is also planning to offer a driver version of the Cybercab that harkens back to some mid-

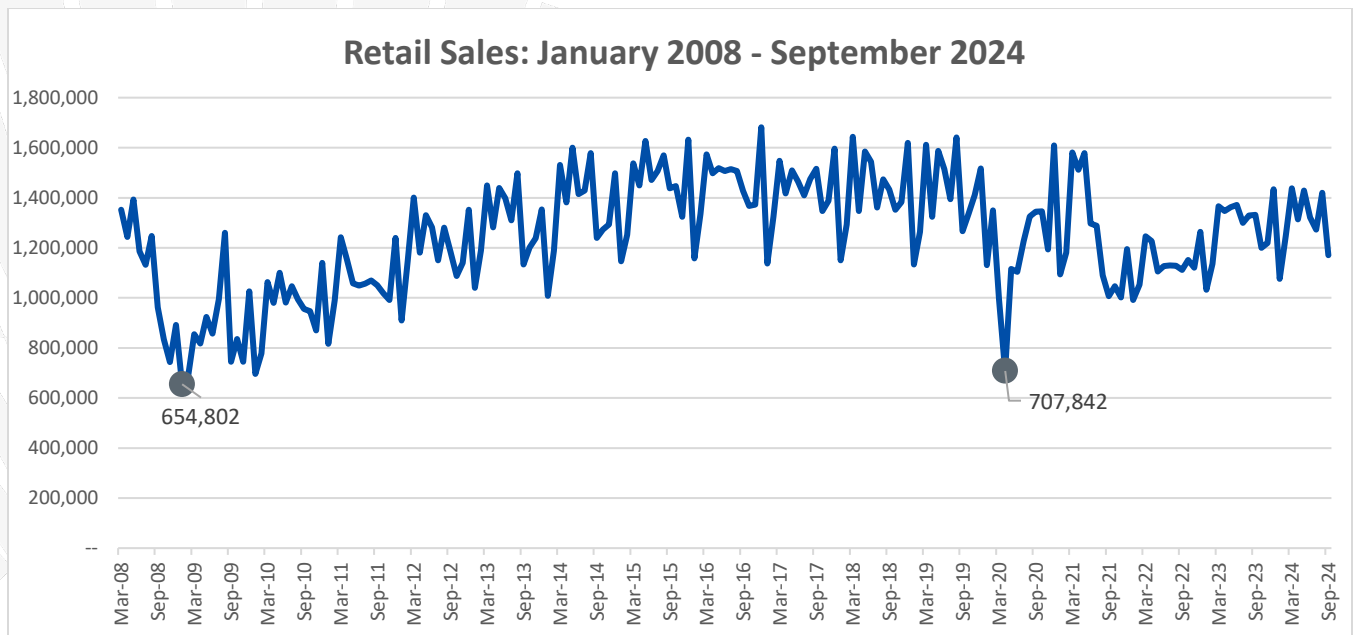
1980s vehicles billed as affordable commuter cars. Both versions of the Cybercab are expected to be available in 2027.”

Market Meter

U.S. Light Vehicle Sales (Updated 10/3)

Monthly Sales (Updated 10/3)

This chart helps to put into context the monthly retail sales due to the COVID pandemic and showing the relative drop in sales compared to the 2008 financial crisis.



September Sales (Updated 10/3)

WardsIntelligence⁸: “U.S. light-vehicle sales finished September with the seasonally adjusted annual rate totaling 15.8 million units, an increase from the prior month’s 15.3 million and like-2023’s 15.7 million, but below expectations and continuing the recent trend of little or no growth.

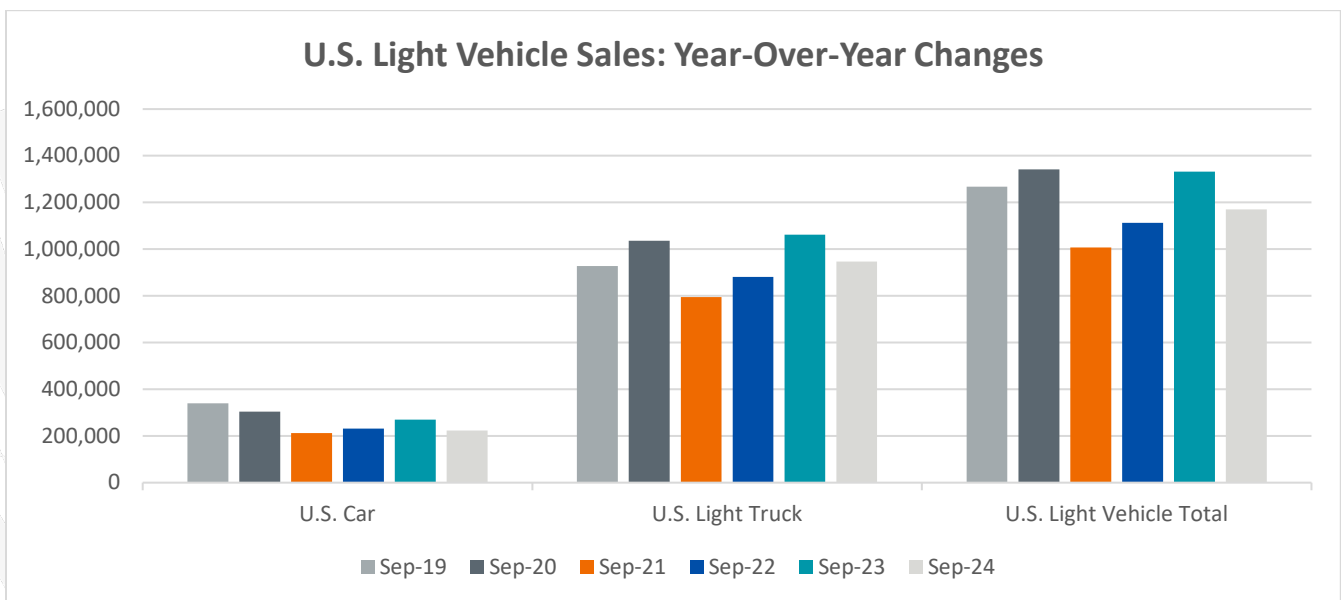
“Demand undoubtedly was hurt by Hurricane Helene, which after hitting land on the West Coast of Florida on Sept. 26, cut a path north through the heart of the Southeastern U.S.

“How much volume was lost due to Helene is uncertain - best current guess is it reduced the SAAR 100,000 to 200,000 units. On a selling-day basis, volume fell 1.4% to 50,866 units – 23 selling days – from September 2023’s 51,576 – 26 selling days. There should be some makeup for the losses in October.

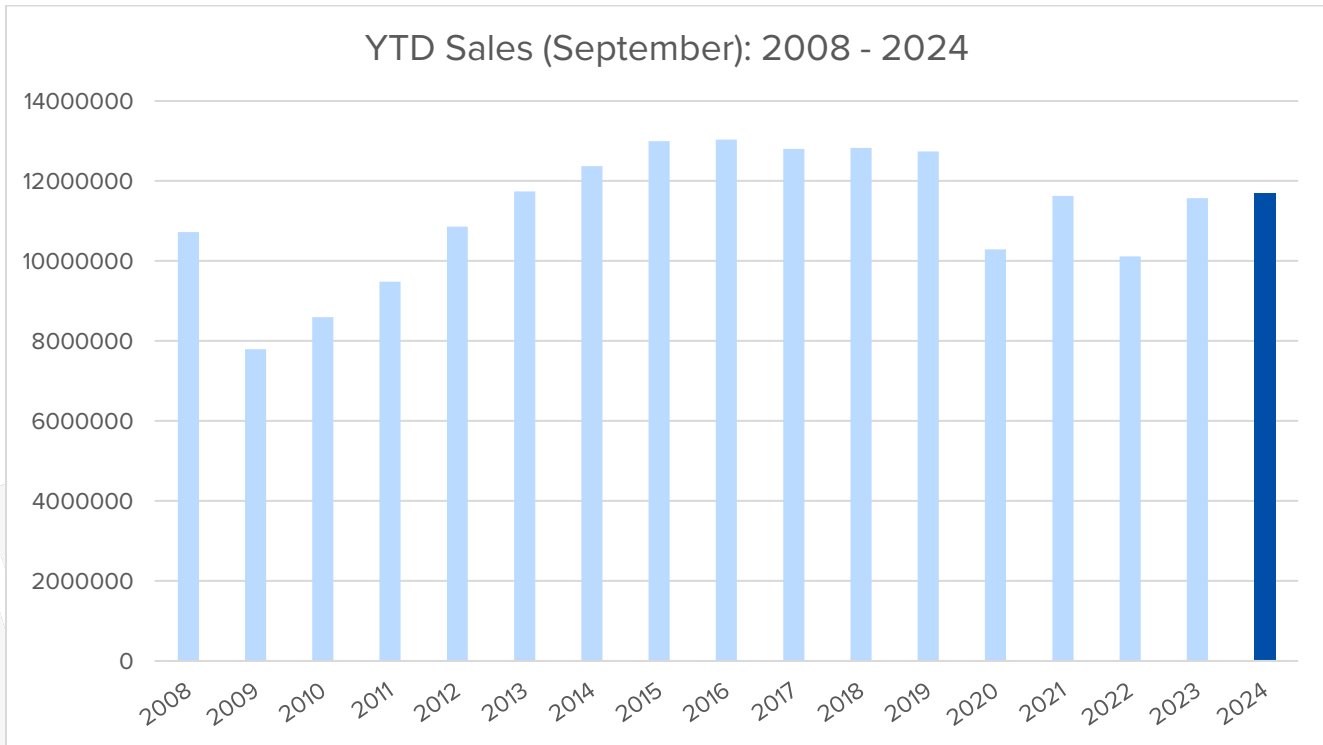
“Because of three fewer selling days this year, raw volume in September was down a heftier 12.8% to 1.17 million units from 1.341 million.

“The third quarter totaled 3.88 million units, 1.9% below like-2023’s 3.96 million. The Q3 results followed a 0.5% decline in Q2 and a 4.9% increase in Q1. Calendar year-to-date deliveries through September totaled 11.69 million, less than 1% above like-2023’s 11.61 million.

“The Q3 SAAR totaled 15.6 million units, same as the year-ago period and down from Q2’s 15.7 million. Taking into account that Q2-2024’s SAAR was equal to the same year-ago period, sales on an annualized basis had no growth over the past six months.”



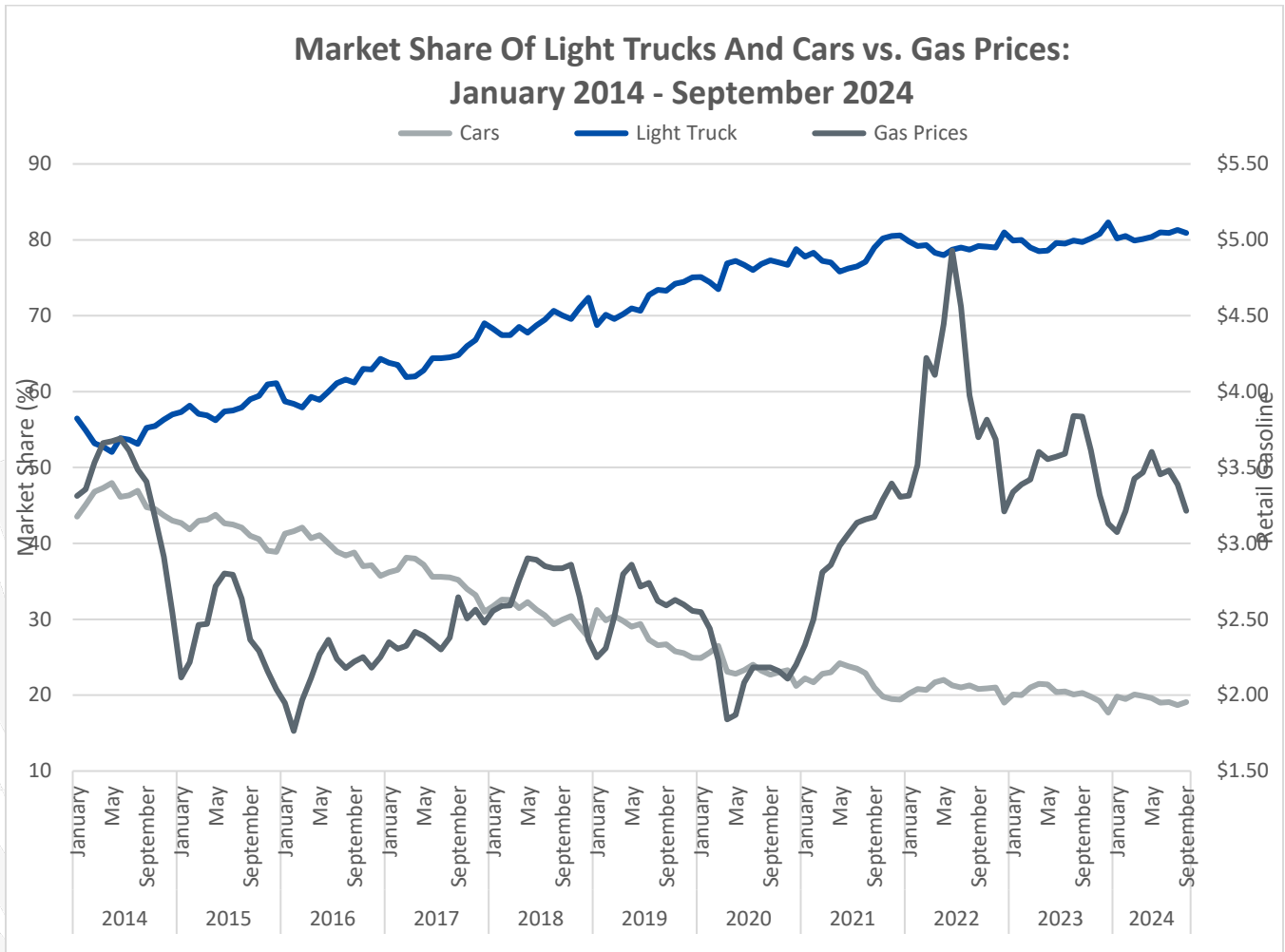
Calendar-year 2024 sales through September totaled 11.69 million units, 0.7% above like-2023’s 11.6 million.



Segments vs. Gas Prices (Updated 10/3)

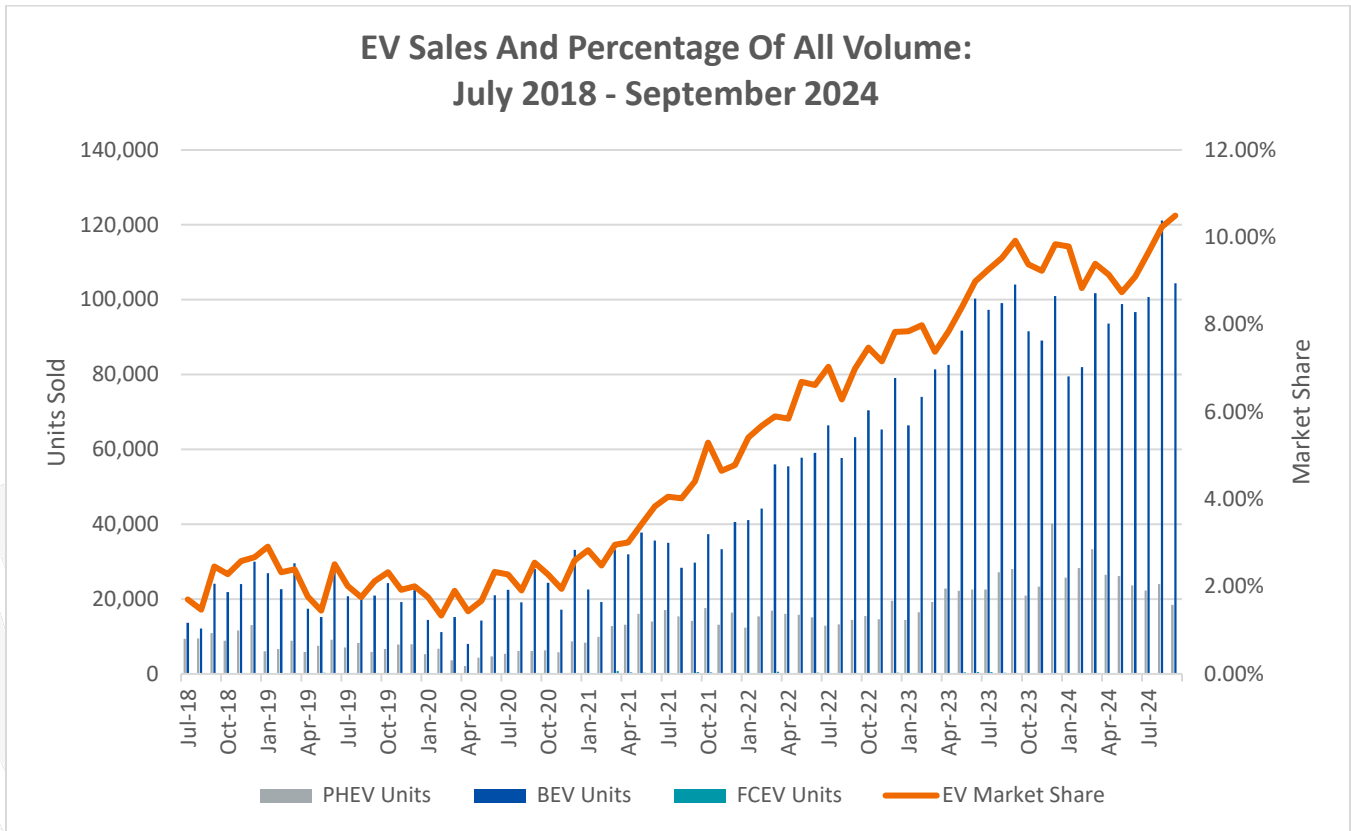
Monthly Sales For September: Light trucks accounted for 81 percent of sales in September, up slightly from the market share a year ago. Compared to the same period in 2023, sales of cars are down by 47,000 units, and down more than 115,000 from September 2019, when cars comprised 27% of the market as opposed to the 19 percent of the market passenger cars have now.

Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments⁹ and gas was over \$3.00¹⁰ a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off. Gas prices since have averaged only \$2.92 a gallon (through July 2024) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013, the perfect conditions existed to continue fueling light truck market growth.¹¹



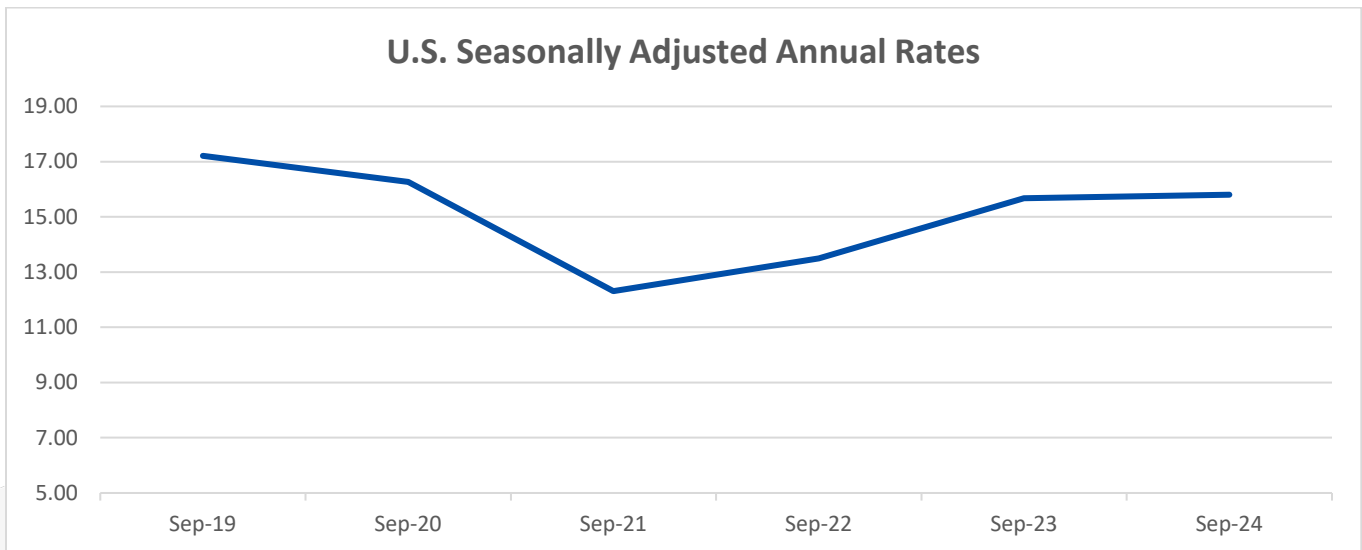
EV Powertrain Sales (Updated 10/3)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 10.5 percent of total vehicle sales in September 2024 (122,805), per Wards estimates. Market share increased 0.26 percentage points (pp) from August 2024. September's EV market share is up 0.6 pp from a year ago. Sales of battery electric vehicles led the way for EVs, accounting for 8.9 percent of total sales, up 1.1 pp from September 2023. Plug-in hybrids accounted for 1.6 percent, down 0.5 pp from the same time last year.¹²



Seasonally Adjusted Annual Rates (Updated 10/3)

WardsIntelligence¹³: “U.S. light-vehicle sales finished September with the seasonally adjusted annual rate totaling 15.8 million units, an increase from the prior month’s 15.3 million and like-2023’s 15.7 million, but below expectations and continuing the recent trend of little or no growth.”



Average Transaction Price (Updated 10/24)

Kelley Blue Book (July) (Updated 10/24)¹⁴: “According to data released today by Kelley Blue Book, the average transaction price (ATP) for a new vehicle in the U.S. was \$48,397 in September. The September ATP increased modestly from August but was lower year over year by 0.4%, as downward price pressure continues to hold new-vehicle ATPs in check. Incentive spending in September increased for the third straight month, rising modestly compared to August. The average incentive package for a new vehicle was equal to 7.3% of the average transaction price (\$3,522) in September, up from 7.2% in August and well above the 4.8% reported one year ago.

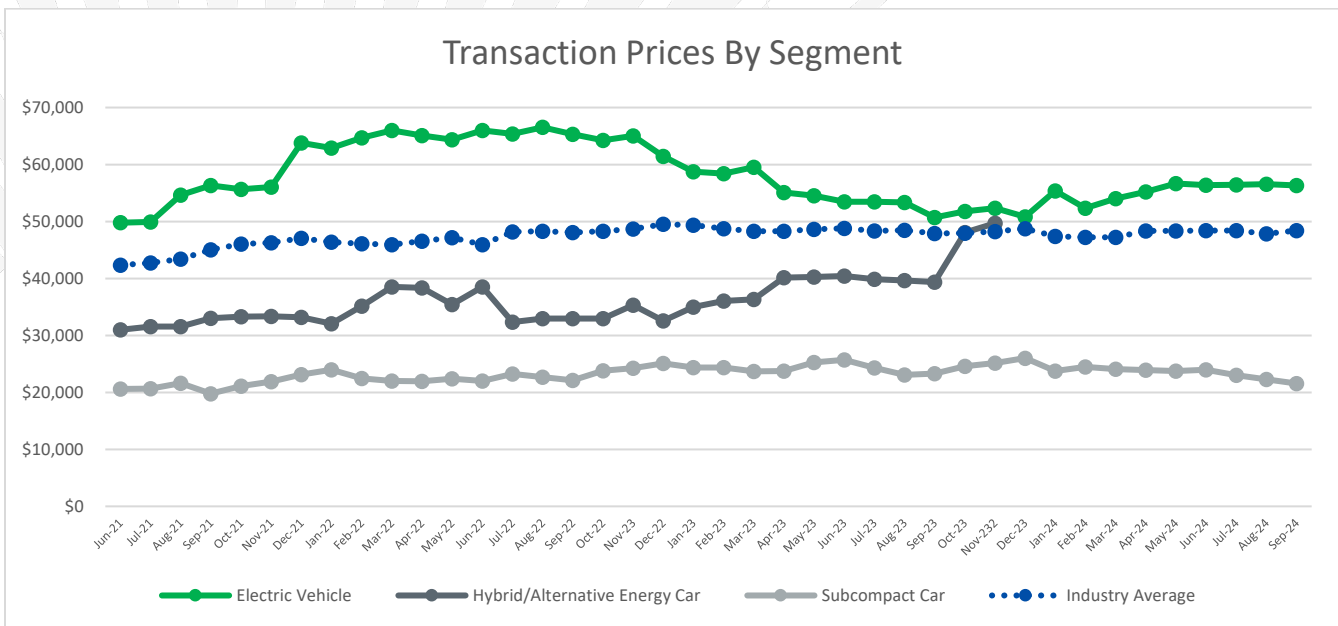
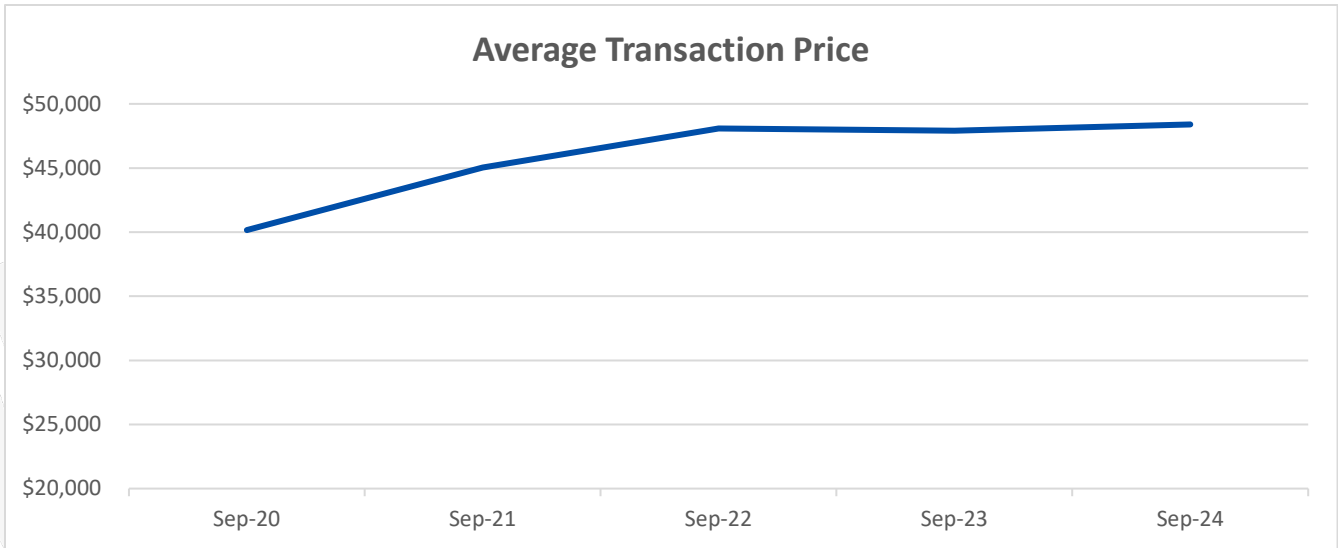
“New-vehicle prices in the U.S. have held mostly steady this year through the end of Q3. Compared to January, when the average transaction price for a new vehicle was \$48,369, prices in September were virtually unchanged, higher by less than \$30. Higher vehicle inventory levels have been a key driver of the downward price pressure. New-vehicle supply at the start of September was 2.84 million units across dealerships in the U.S., as measured by Cox Automotive’s vAuto Live Market View, higher than the 2.61 million recorded in January and well above the 2.07 million a year earlier.

“Electric vehicle (EV) transaction prices in September were also lower year over year by 0.9%. At \$56,351, the average transaction price for a new electric vehicle changed little from August and was higher than the industry-wide ATP by approximately 16%. The premium paid for an EV in September was at its lowest point in 2024. Through the end of Q3, the EV premium has averaged 19%.

“In September, incentive spending for electric vehicles also continued to track well above the industry average, although incentives for electric vehicles declined month over month. September EV incentives averaged \$6,904, or 12.3% of ATP, a 0.7 percentage point decrease from August, which was the highest point of 2024.

J.D. Power (Updated 10/3)¹⁵: “The average new-vehicle retail transaction price has fallen from a year ago due to higher manufacturer incentives, larger retailer discounts and increased availability of lower-priced vehicles. Transaction prices are trending towards \$44,467—down \$1,296 or 2.8%—from September 2023.”

“Manufacturer discounts are continuing to rise. The average incentive spend per vehicle has grown 63.2% from September 2023 and is currently on track to reach \$3,047. Expressed as a percentage of MSRP, incentive spending is currently at 6.2%, an increase of 2.4 percentage points from a year ago. Spending has decreased by \$21 per unit from August 2024.”

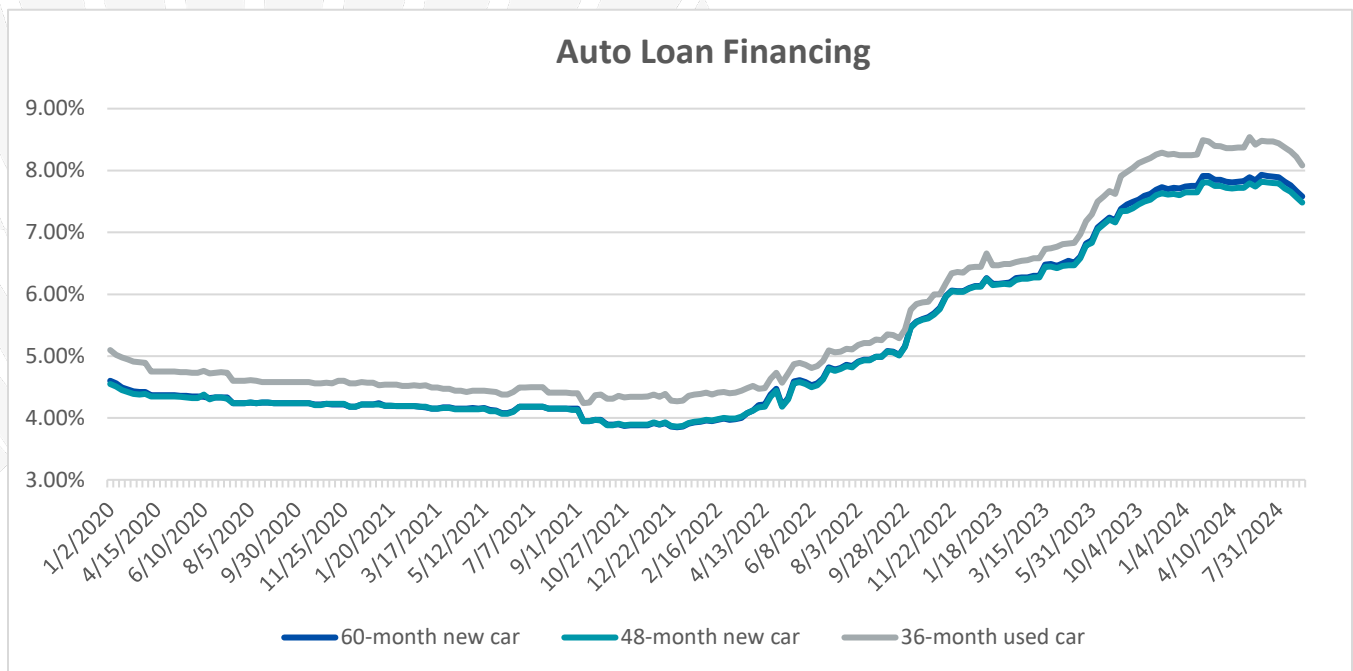


Auto Loan Financing (Updated 10/3)

Interest Rates (updated 10/3): Interest rates dipped slightly on the 60-month, 48-month and the 36-month used car loans over the past two weeks. Rates now stand at 7.58%, 7.48%, and 8.08%, respectively. Since the beginning of 2020, 60-month rates are up 2.98 pp, and are up 0.05 pp since the same time a year ago.¹⁶

JD Power (10/3)¹⁷: “Average monthly finance payments this month are on pace to be \$734, up \$11 from September 2023. The average interest rate for new-vehicle loans is expected to be 6.84%, down 46 basis points from a year ago.”

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
10/4/2023	7.53%	7.45%	8.12%
9/18/2024	7.67%	7.57%	8.22%
10/2/2024	7.58%	7.48%	8.08%
Two Week Change	-0.09%	-0.09%	-0.14%
Change since 1/3/20	2.98%	2.93%	2.98%
One Year Change	0.05%	0.03%	-0.04%

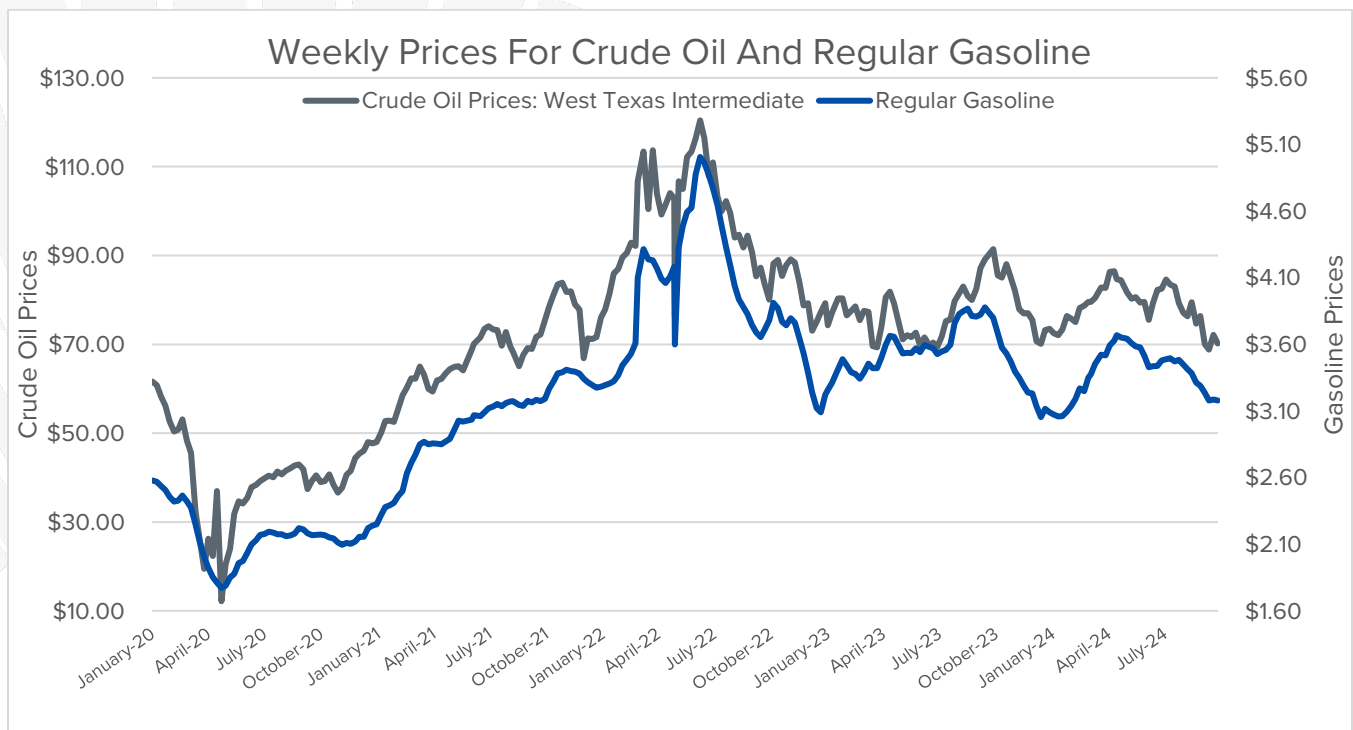


Crude Oil and Gas Prices (Updated 10/3)

Gas And Oil Remain Elevated (10/3): Oil prices, as benchmarked at West Texas Intermediate were \$70.22, up \$16.14 from the beginning of September. Since election day 2020, oil prices are \$34 a barrel higher. Gas is down slightly from a week ago at \$3.18. Gas is 23% higher than the beginning of 2020 and has not been below \$3 a gallon since May 2021.¹⁸

EIA Outlook For Oil (8/7):¹⁹ “Crude oil prices. Although crude oil prices have fallen recently, we continue to expect crude oil prices will rise in the second half of 2024 (2H24). The Brent crude oil spot price ended July at \$81 per barrel (b), compared with an average for the month of \$85/b. We expect the Brent price will return to between \$85/b and \$90/b by the end of the year. Rising crude oil prices in our forecast are the result of falling global oil inventories. We estimate global oil inventories decreased by 0.4 million barrels per day (b/d) in 1H24 and will fall by 0.8 million b/d in 2H24. Inventory withdrawals stem in part from ongoing OPEC+ production cuts. Although we expect crude oil prices to rise in the coming months, our forecast for the annual average Brent crude oil price in 2025 is down from a forecast of \$88/b in our July STEO, owing mostly to reduced oil consumption.”

EIA Outlook For Gasoline (7/9):²⁰ “We forecast regular-grade gasoline prices will average around \$3.50 per gallon in 2025 and gasoline consumption will average 8.9 million b/d. Continued increases in vehicle efficiency mean U.S. drivers will drive more miles in 2025 than before, but we expect 1% less U.S. gasoline consumption than in 2023 and 5% less than the record set in 2018.”



Production Meter

U.S. Light Vehicle Inventory and Days' Supply (Updated 10/3)

WardsIntelligence Inventory Update (10/3):²¹ “U.S. light-vehicle inventory increased 4.4% from the prior month to 2.82 million units, 36.5% above like-2023 and highest for the month since 3.64 million in 2019.

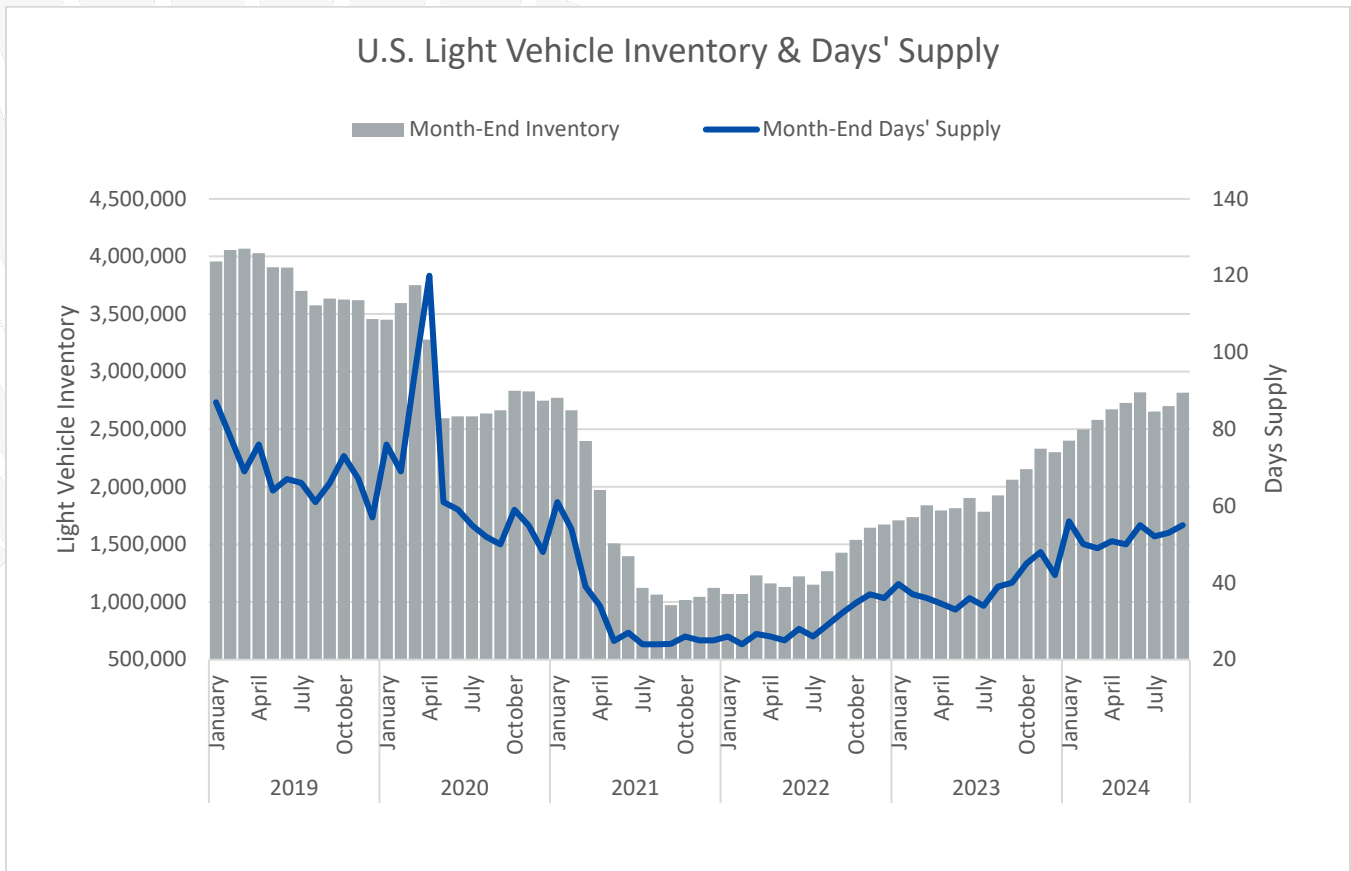
“In fact, September’s total was the highest for any month since 2.88 million in November 2020.

“Sept. 30 days’ supply totaled 55, up from the prior month’s 53 and like-2023’s 40.

“How many vehicles on dealer lots in the states impacted by Hurricane Helene were damaged to the point of being deemed unsaleable is unknown and are not necessarily reflected in the inventory totals reported to Wards Intelligence by automakers. Helene hit land Sept. 26, causing massive flooding and power outages throughout much of the Southeastern U.S.

“A month-to-month increase in September is a typical seasonal trend, as automakers start beefing up for the fourth quarter when vehicles for the upcoming model year – ’25 models in this case - become widely available.

“However, automakers have been slowing production for the U.S. market to keep inventory from getting too far out of balance with weaker-than-expected demand.



North American Production (Updated 10/24)

Wards Intelligence²²: “In a reversal of recent trends there was an increase in North America production to the current-quarter outlook in the Wards Intelligence North America Production Tracker, and output in the most recent month finished above expectations.

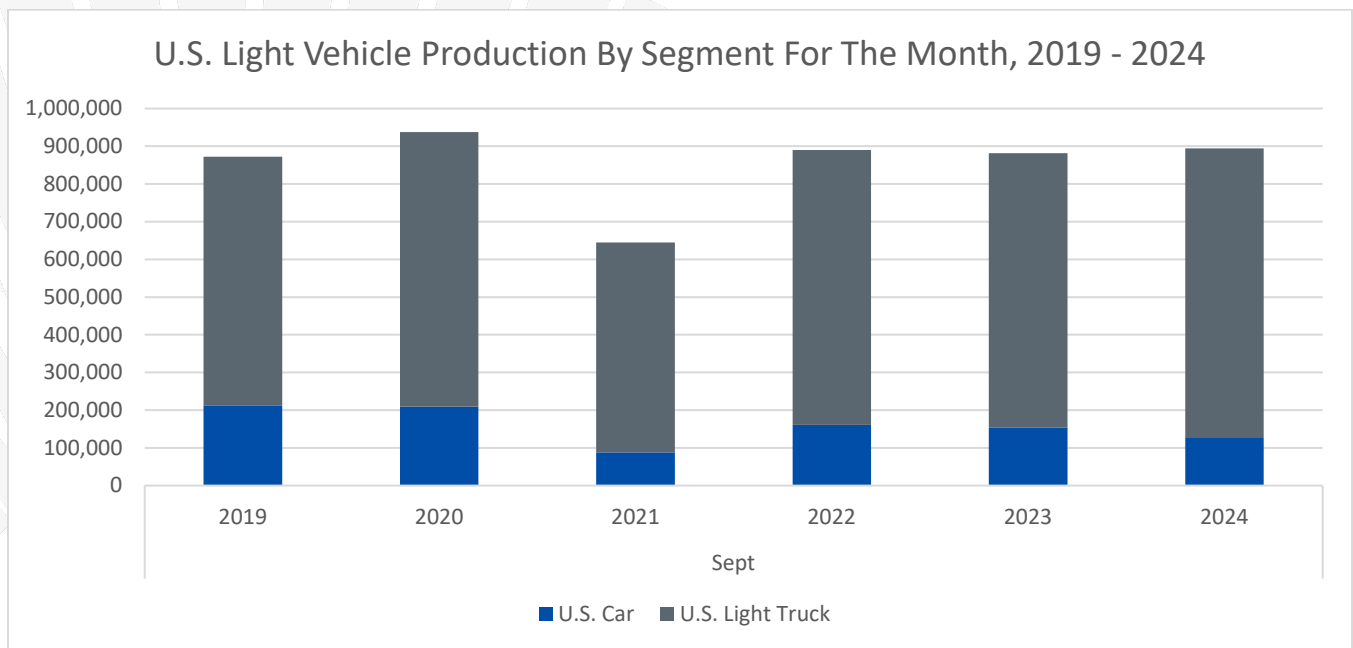
“An overbuild in September of 43,000 units capped off Q3, which totaled 3.971 million, significantly below like-2023’s 4.074 million.

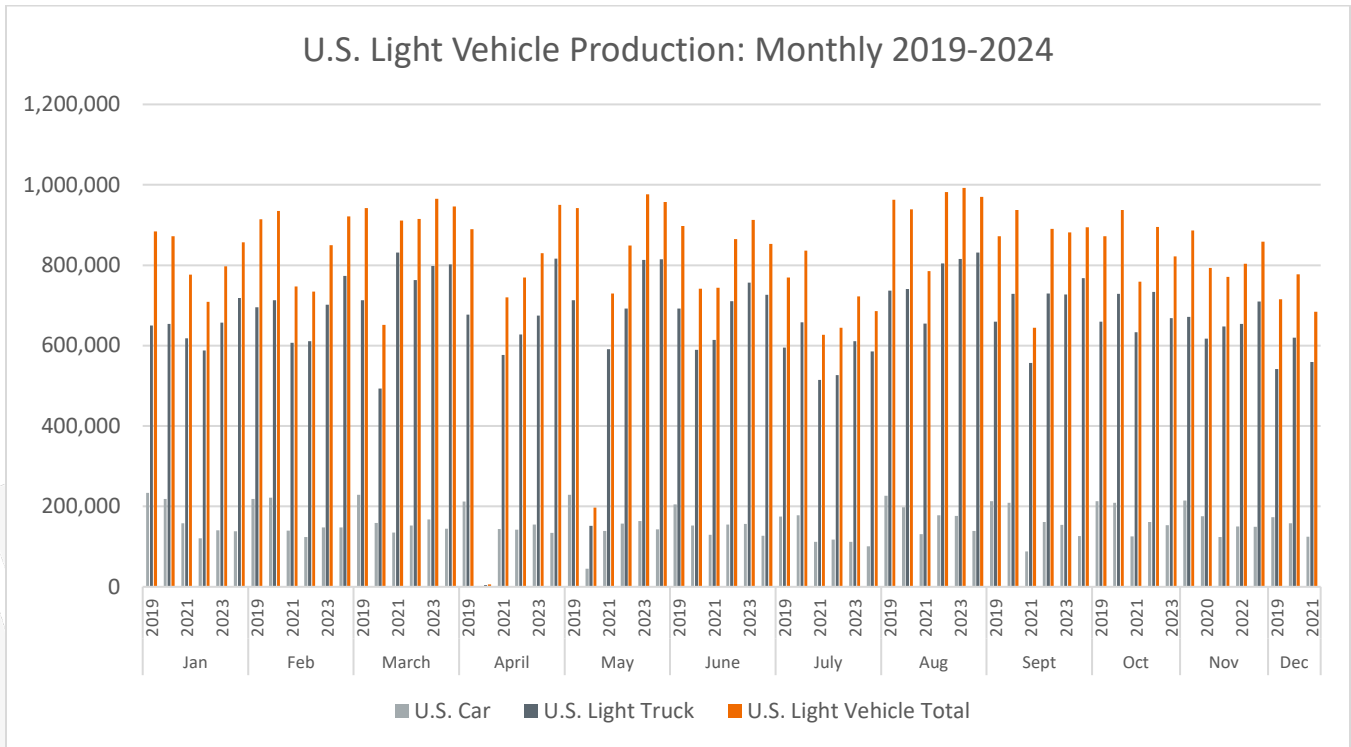
September’s output totaled 1.400 million units, less than 1% above same-month 2023, but the first by-month increase since April’s 14.4% gain.”

U.S. Light Vehicle Production (Updated 10/24)

U.S. Monthly Production (Updated 9/26)

U.S. Light vehicle production for August 2024 was down 7.2 percent month-over-month, totaling 894,643 vehicles (126,589 cars, 768,054 light trucks), year-over-year, production is up 3 percent from 2023.²³





Global Meter

Global Light Vehicle Sales (Updated 10/3)

Wards Intelligence²⁴: “Global sales of all vehicles – light vehicles and medium- and heavy-duty trucks – declined year-over-year for the second straight month in August.

“Including estimates for some markets, global sales totaled 7.135 million units in August, 6.4% below like-2023’s 7.622 million.

“Further weakening demand in the Asia-Pacific region, where volume fell 12.3% year-over-year to 3.52 million units, was the biggest overall drag to August’s results.

“As in July, the AP decline was spearheaded by a downturn in the world’s largest market, China, which recorded a drop of 15.5% in August, its third straight decline. China’s share of global sales fell to 31.3% in August from the year-ago period’s 34.7%.

“However, unlike July when its volume in the rest of the region increased, demand in AP-less-China declined in August – 6.0% - thanks in large part to downturns in the AP’s second and third largest markets, India and Japan, respectively. August sales in India declined 6.4% year-over-year, the first drop since June 2023. Conversely, Japan’s 3.0% decline in August reversed an increase in July and was the market’s seventh downturn during the first eight months of 2024.

“August’s global results also were punctuated by Europe’s 9.7% year-over-year decline, the region’s first since September 2022. Nearly every country in Europe recorded a shortfall with the year-ago month. Exceptions were Russia (up 16.9%), Ukraine (33.4%), Netherlands (4.2%), Serbia (7.8%) and Slovenia (11.7%).

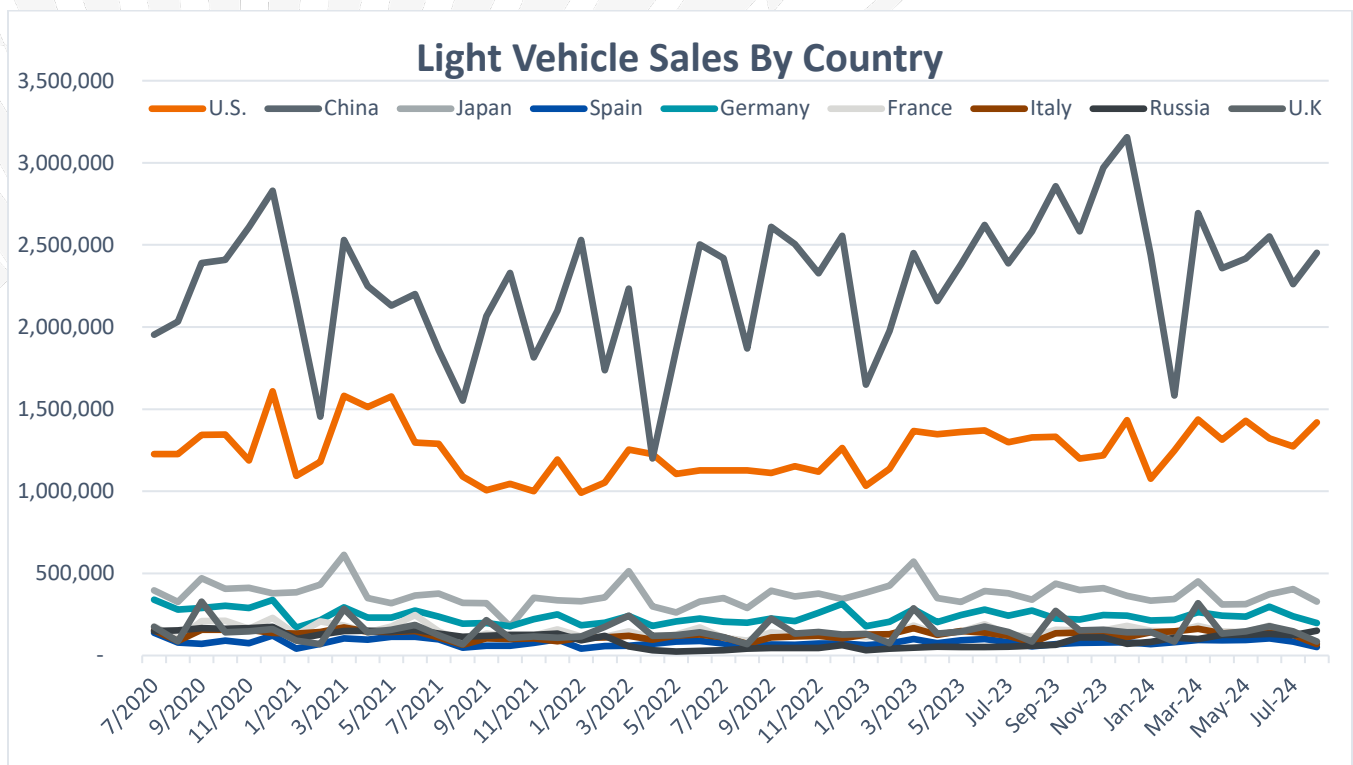
“The biggest market in Europe, Germany, recorded a whopping 29.0% drop from August 2023, pulling down its calendar year-to-date increase to less than 1%. But other major markets in the region, such as U.K., France and Italy, also recorded declines, with France and Italy’s downturns in the double digits.

“Despite downturns in July and August, calendar year-to-date sales through the first eight months of 2024 remain above year-ago. Calendar-year deliveries through August totaled 60.189 million units, up 1.4% above like-2023’s 59.329 million.

“Excluding medium-/heavy-duty trucks, light-vehicle sales in August totaled 6.982 million units, 4.8% below like-2023’s 7.335 million. Calendar year-to-date light-vehicle sales through August totaled 58.208 million units, up 2.0% from like-2023’s 57.082 million.

“Wards Intelligence partner GlobalData pegged August’s annualized rate for light vehicles at 89.3 million units, same as July. GlobalData expects volume in September to decline again from the year-ago period, but the annualized rate is tracking to a gain from August to 91 million.

“Still, GlobalData revised its global outlook for entire-2024 down for the fourth time this year. Light-vehicle sales are forecast to end 2023 at 88.5 million units, citing elevated pricing and geopolitical risks as major headwinds.



Global Light Vehicle Production (Updated 10/24)

S&P Global Mobility Forecast (10/24)²⁵: “With the start of the fourth quarter of 2024 upon us, the themes that we have seen play out in recent months still remain top of mind. The industry remains focused on managing production and inventories given regional demand dynamics that include somewhat slower growth in key regions and continued uncertainties around BEV adoption. The production outlook reflects these ongoing challenges with this month’s forecast update particularly focused on noteworthy downward revisions for Europe factoring in a reduced demand outlook for the region and meaningful production impacts due to forthcoming mandated fleet emissions requirements and inventory adjustments offset by a modestly improved near-term outlook for Greater China as bolstered stimulus actions by the government seem to finally be demonstrating much-needed near-term support for demand in the region. Propulsion mix developments continue to vary by region as some markets face slower EV adoption growth rates while other areas continue to see rather encouraging results. The October forecast update reflects a mix of upgrades and downgrades of varying magnitudes in the near-to-intermediate term, with adjustments spread across several regions. Downward revisions are primarily focused on Europe as well as North America, as both markets navigate dynamic demand fundamentals, inventory management and volatile vehicle launch activity, among other factors. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was reduced by 107,000 units and by 292,000 units for 2024 and 2025, respectively (and reduced by 163,000 units for 2026). Overall European regional output was cut again this month. Weakening demand across Central and Western Europe and stalling exports are contributing to a reduction of 114,000 units across the balance of 2024 for the two combined markets. The final quarter will see OEMs coming under pressure to align to supply to best address requirements in 2025 when a further reduction of 15% in fleet emissions is mandated across the European Union. In 2025, this effect and similar punitive legislation in the UK will maintain pressure on OEMs to manage supply to the market and as a result the outlook is cut by 327,000 units. A further 218,000 units were removed in 2026 to reflect inventory adjustment against a weaker sales outlook. In contrast to the headwinds facing the Central and Western Europe markets, Eastern Europe output was increased by 35,000 units and 55,000 units in 2025 and 2026, respectively, as Russian demand supports domestic production and activity in neighboring Uzbekistan. A marginal 7,500 units were added to the balance of 2024.

“Greater China: The outlook for Greater China light vehicle production was increased by 73,000 units and reduced by 42,000 for 2024 and 2025, respectively (and increased by 38,000 units for 2026). After the somewhat seasonal downturn in July and August, mainland China light vehicle production started to improve in September. Moreover, according to the CPCA, passenger vehicle retail sales recovered to positive development with 4% year-over-year growth in September. New Energy Vehicles (NEVs) remain the primary growth driver for the market and continued their strong momentum with 1.1 million retail units sold for the month. Strengthened scrapping measures and subsidy policies continue to promote the disposal of ICE vehicles in favor of NEVs. Given the rather uncertain macro outlook and turbulence in the stock market, among other factors, a fundamental consumption recovery is not expected this year, even as the scrapping policy provides modest support. The outlook for 2024 was revised up slightly to 29.3 million units, representing 1.0% growth year-over-year. The outlook for 2025 was reduced marginally to reflect a light pay-back effect related to the scrapping policy, and the outlook for 2026 was increased a bit on expectations for some improvement in the economic environment.

“Japan/Korea: Full-year 2025 and 2026 Japan production was upgraded by 22,000 units and 128,000 units, respectively, relative to last month’s forecast. One driver of the revision was the addition of the Nissan C-CUV (PHEV) which is a variant of the Mitsubishi Outlander (PHEV). Nissan decided to source the vehicle to satisfy PHEV demand as a somewhat temporary solution. The other factor was a change in sourcing of the Nissan

Leaf for North America from the UK to Japan according to our latest research. The longer-term forecast was also upgraded by around 1.3% per year. In addition to the positive impact by the sourcing change of the Nissan Leaf, we also added Toyota dedicated BEV models to the line-up developed from the BEV-F platform. South Korea light vehicle production was reduced by 9,000 units and by 16,000 units for 2024 and 2025, respectively (and reduced by 11,000 units for 2026). Forecast reductions through the near-term reflect adjusted export expectations, particularly given slower sales progression in Europe. In the long-term, there were no major changes to South Korea production until 2031 as global sourcing of the Hyundai Avante and Kia EV4 expanded from 2032 with production volumes increasing accordingly by about 70,000 units per year.

“North America: The outlook for North America light vehicle production was reduced by 12,000 units and by 113,000 units for 2024 and 2025, respectively (and reduced by 104,000 units for 2026). The outlook for North America was revised down marginally for 2024. Steeper downgrades for 2025 and 2026 are mostly associated with program delays at Stellantis that were drivers supporting the growth outlook for the company in 2025. Production of the Dodge Charger, Jeep Wagoneer S, Recon, Cherokee and Compass, and the Ram 1500 REV and Ramcharger have all experienced rolling delays ranging from several weeks to several months. Conversely, Ford reported one of its most productive months in the post-COVID and semiconductor shortage era producing a noteworthy 15.9% more vehicles than previously forecasted for the month of September 2024. However, this unfortunately comes at a time that will likely fuel further inventory growth. At Tesla’s recent ‘We, Robot’ event, the all-new Cybercab was revealed in a surprising two-door, two-seat format with the company citing that most ride hailing services is for two or less people. Questions surround the legality of putting a fully autonomous vehicle on the road without regulated driver controls. Tesla is also planning to offer a driver version of the Cybercab that harkens back to some mid-1980s vehicles billed as affordable commuter cars. Both versions of the Cybercab are expected to be available in 2027.

“South America: The outlook for South America light vehicle production was increased by 36,000 units and by 35,000 units for 2024 and 2025, respectively (and increased by 31,000 units for 2026). In the extreme near-term, the outlook has been upgraded to support stronger sales activity for Brazil as there has been a robust push in tactical fleet sales very recently. While this strategy can provide near-term benefits through the balance of 2024 and perhaps into early 2025, it is likely not sustainable absent more fundamental positive macro developments. For 2025 and 2026, production volumes were upgraded primarily due to improved demand expectations for Argentina and, to a somewhat lesser extent, Brazil.

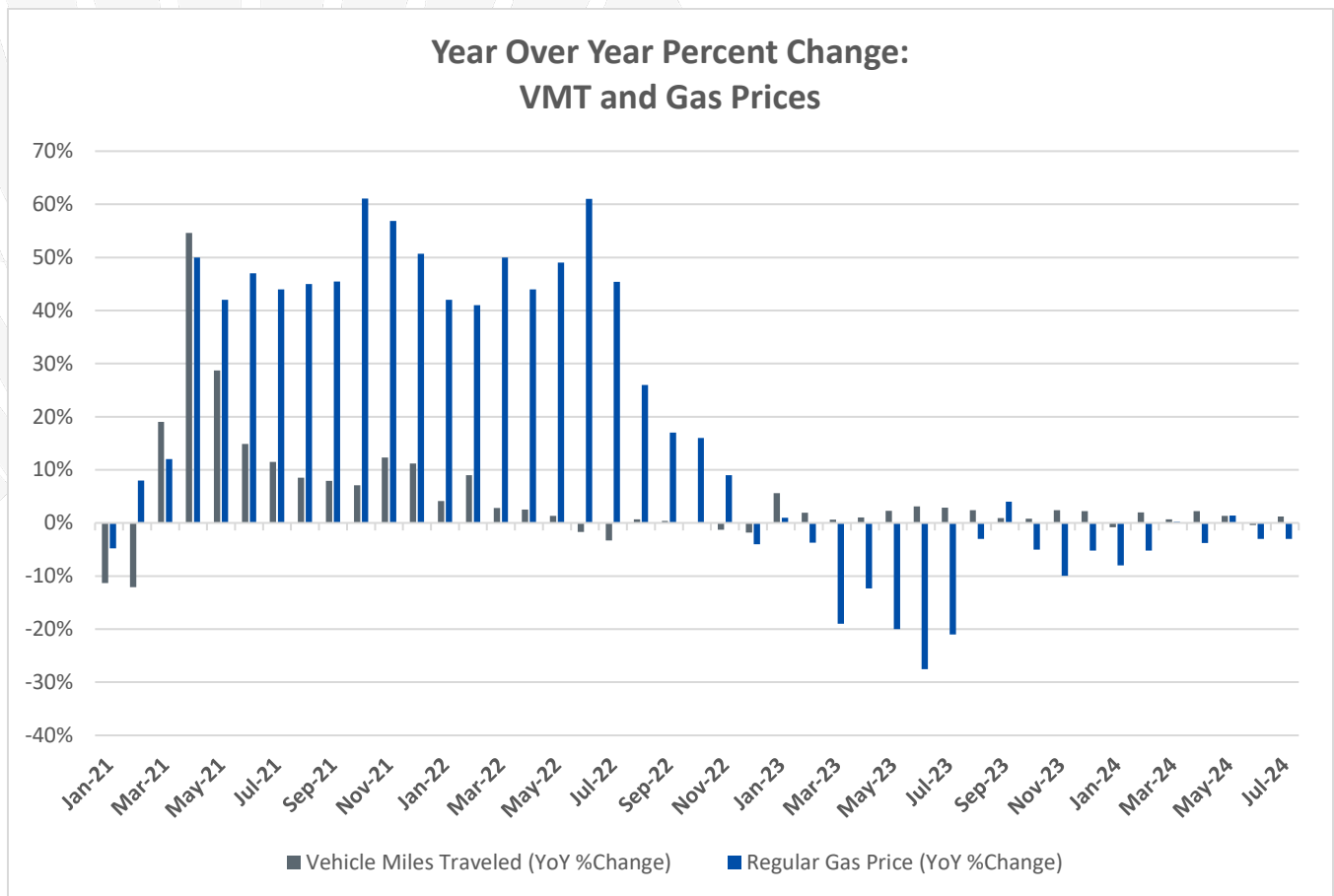
“South Asia: The outlook for South Asia light vehicle production was increased by 25,000 units and reduced by 73,000 units for 2024 and 2025, respectively (and reduced by 33,000 units for 2026). South Asia’s light vehicle production forecast for 2024 was upgraded largely due to stronger recent production activity associated with the ASEAN market, particularly for Ford in Thailand and VinFast in Vietnam. The outlook for 2025 and 2026 in the ASEAN market was revised down by 32,000 units and 17,000 units, respectively on slightly reduced expectations around the recovery pace for the market which will be driven primarily by revived economic growth and government incentive schemes for Electric Vehicles and stimulus programs, particularly in Indonesia, Malaysia and Thailand. Regarding the India market, production was reduced by 3,000 units for 2024 to reflect slightly weaker recent actual production and other short-term adjustments. More meaningful downward revisions incorporated for India in 2025 and beyond, in part, reflect the ongoing influence of the weaker rupee and elevated interest rates coupled with uncertainty associated with the alliance government and high inventory levels.

Recovery Meter

Roadway Travel (Updated 9/9)

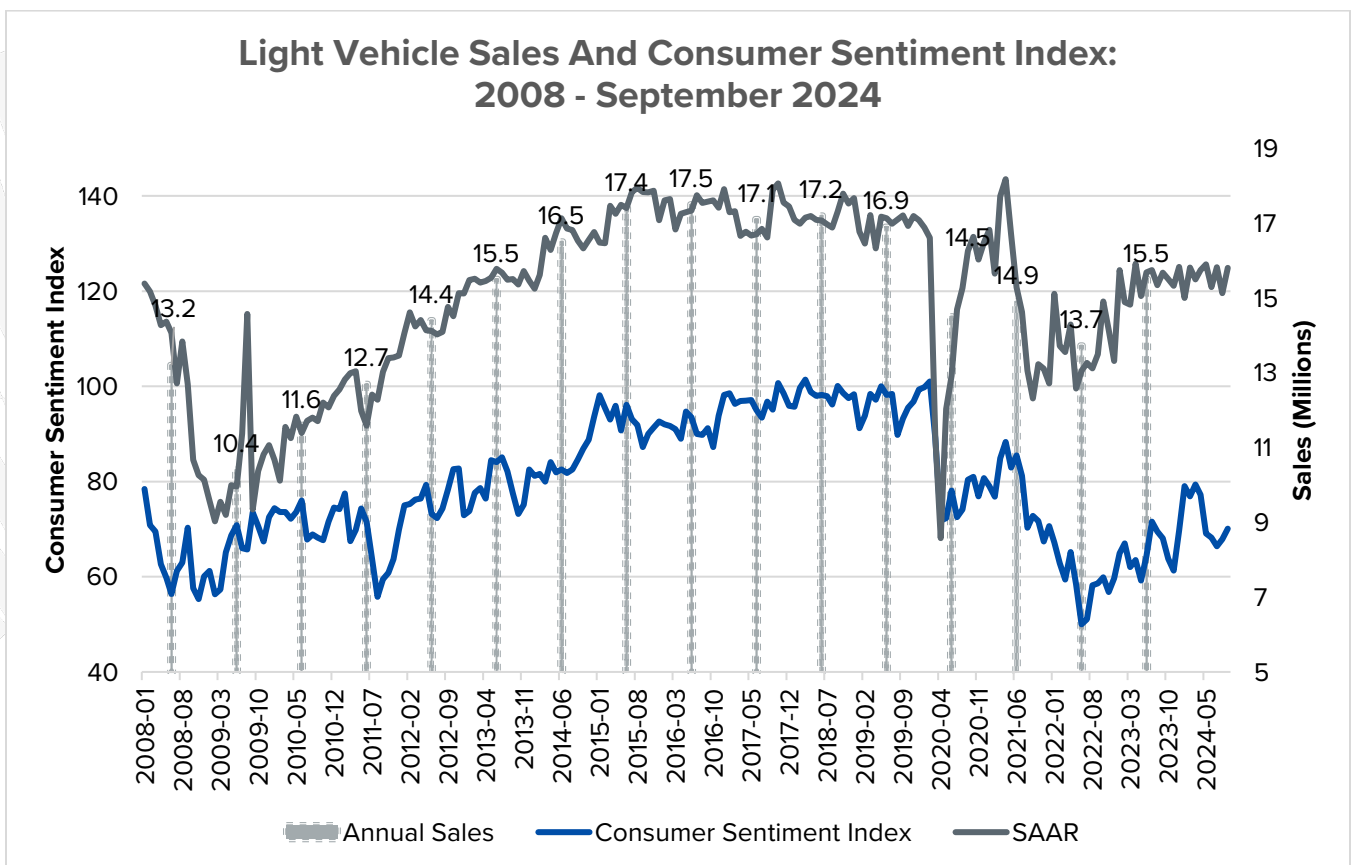
According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in July increased .6 percent from the same time a year ago. The cumulative travel estimate for 2024 is 1,898 billion vehicle miles.²⁶

- Travel on all roads and streets changed by +1.2% (+3.5 billion vehicle miles) for July 2024 as compared with July 2023. Travel for the month is estimated to be 293.3 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for July 2024 is 274.3 billion miles, a +0.6% (+1.6 billion vehicle miles) change over July 2023. It also represents a 0.04% change (0.1 billion vehicle miles) compared with June 2024.
- Cumulative Travel for 2024 changed by +0.9% (+16.6 billion vehicle miles). The cumulative estimate for the year is 1,898.0 billion vehicle miles of travel.



Consumer Confidence and Sales (Updated 10/3)

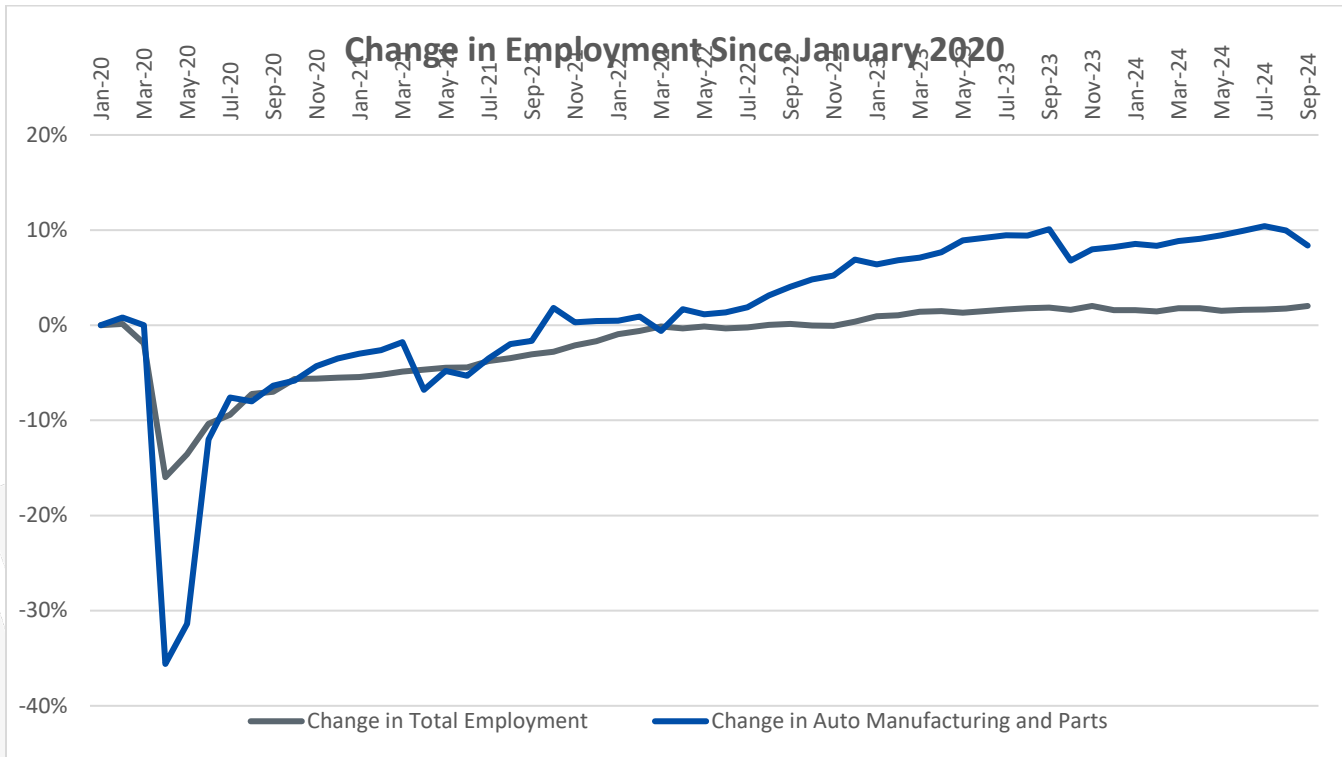
Surveys of Consumers Director Joanne Hsu²⁷: “Consumer sentiment extended its early-month climb, ultimately rising more than 3% above August. This increase was seen across all education groups and political affiliations. Furthermore, all five index components gained, led by a 6% surge in one-year business expectations. The expectations index is now 13% above a year ago and reflects greater optimism across a broad swath of the population. While sentiment remains below its historical average in part due to frustration over high prices, consumers are fully aware that inflation has continued to slow. Sentiment appears to be building some momentum as consumers’ expectations for the economy brighten. At the same time, many consumers continue to report that their expectations hinge on the results of the upcoming election. Relative to August, consumers across political parties are increasingly expecting a Harris presidency, though about two-thirds of Republicans still expect Trump to win.



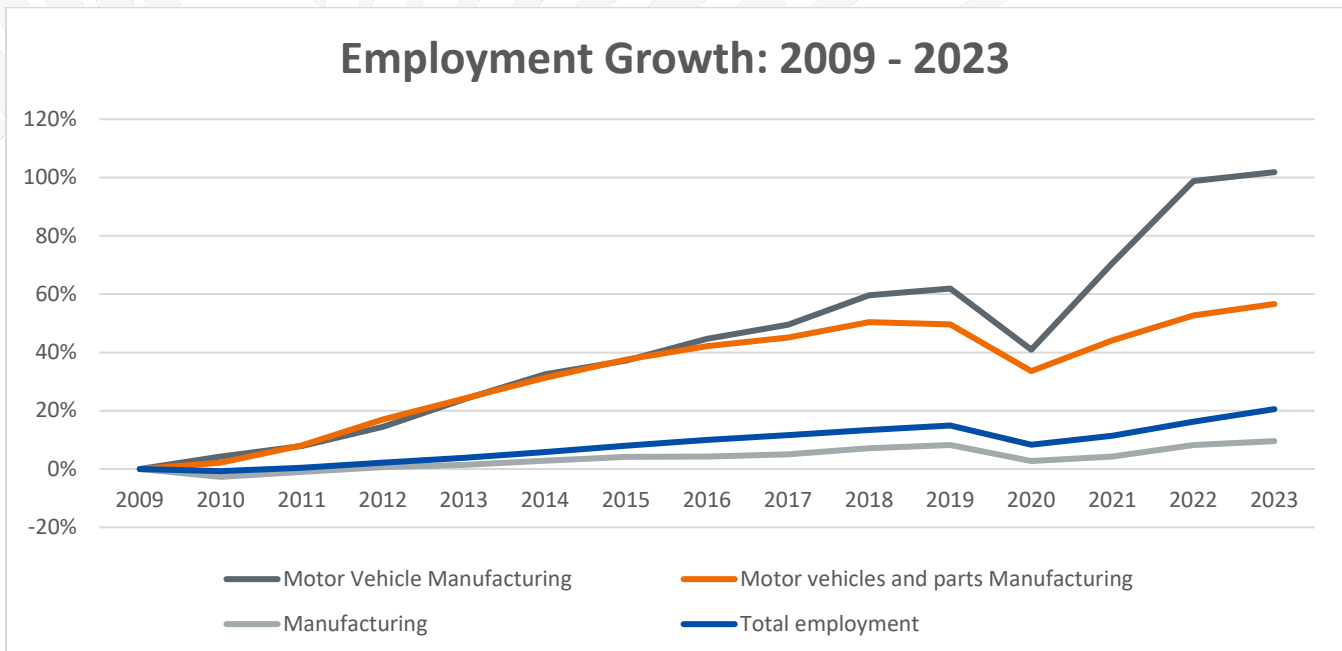
Employment (Updated 10/24)

Motor Vehicle And Parts Manufacturing Lost 6,500 Jobs in September.

After a loss of nearly 350,000 employees (about 35% of the workforce) in the height of the pandemic, employment in the Automobile Manufacturing and Parts sectors raced back but is now fighting losses due to supply chain disruptions with semiconductors.²⁸



After the recession in 2009, the auto industry was credited with being on the leading edge of the recovery, which began a ripple effect through other parts of the country.²⁹ Additionally, the chart below shows how the recovery of jobs in motor vehicle manufacturing alone and motor vehicle and parts manufacturing far outpaced the recovery of manufacturing and total jobs.



Sources

- ¹ WardsIntelligence, U.S. Light Vehicle Sales, January 2021 – June 2023
- ² WardsIntelligence, North America Production, January 2021 – June 2023
- ³ WardsIntelligence, North America Platform by Plant Production Forecast, Q1
- ⁴ Haig Stoddard, “October U.S. Light-Vehicle Sales Forecast to Start Q4 with Small Gain,” WardsIntelligence, 10/23/2024
- ⁵ Haig Stoddard, “October U.S. Light-Vehicle Sales Forecast to Start Q4 with Small Gain,” WardsIntelligence, 10/23/2024
- ⁶ Haig Stoddard, “Rising U.S. Light-Vehicle Inventory in August, Sluggish Demand Spur Production Slowdowns,” WardsIntelligence, 9/5/2024
- ⁶ WardsIntelligence, “North America Production Reverses Trend with September Overbuild, Increase to Q4 Outlook,” 10/18/2024
- ⁷ S&P Global Mobility, email, “S&P Global Mobility Monthly Automotive Update – August 2024,” 8/19/2024
- ⁸ Haig Stoddard, “September U.S. Light-Vehicle Sales up Slightly on SAAR basis,” WardsIntelligence, 10/1/2024
- ⁹ WardsIntelligence, U.S. Light Vehicle Sales, January 2013 – August 2024
- ¹⁰ U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Regular price per gallon, including taxes
- ¹¹ WardsIntelligence, Fuel Economy Index, December 2013 & 2019
- ¹² WardsIntelligence, U.S. Light Vehicle Sales, August 2022 - 2024
- ¹³ Haig Stoddard, “September U.S. Light-Vehicle Sales up Slightly on SAAR basis,” WardsIntelligence, 10/1/2024
- ¹⁴ Kelley Blue Book, Press Release, “New-Vehicle Sales Incentives Climb Higher in July, According to Kelley Blue Book Estimates,” 8/13/2024
- ¹⁵ J.D. Power, Press Release, “September Sales Decline Due to Timing of Labor Day Weekend But Combined August-September Results Show Retail Growth,” 9/26/2024
- ¹⁶ Bankrate, “[Current Car Loan Interest Rates](#),” Accessed 7/22/2024
- ¹⁷ J.D. Power, Press Release, “September Sales Decline Due to Timing of Labor Day Weekend But Combined August-September Results Show Retail Growth,” 9/26/2024
- ¹⁸ U.S. Energy Information Administration, Regular Gasoline, www.eia.gov, Accessed 9/9/2024; U.S. Energy Information Administration, Weekly Cushing, OK WTI Spot Price, www.eia.gov, Accessed 9/9/2024
- ¹⁹ EIA, “[Short-Term Energy Outlook](#),” 7/9/2024
- ²⁰ EIA, “[Short-Term Energy Outlook](#),” 7/9/2024
- ²¹ Haig Stoddard, “September U.S. Light-Vehicle Inventory Rises as the Industry Looks for Demand to Improve in Q4,” WardsIntelligence, 10/2/2024
- ²² Haig Stoddard, “North America Production Reverses Trend with September Overbuild, Increase to Q4 Outlook,” 10/18/2024
- ²³ WardsIntelligence, “North America Production, August,” 2019, 2020, 2021, 2022, 2023, 2024
- ²⁴ Haig Stoddard, “Global Vehicle Sales Rise Third Straight Month in May,” WardsIntelligence, 6/27/2024
- ²⁵ S&P Global Mobility, email, “S&P Global Mobility Monthly Automotive Update – September 2024,” 9/16/2024
- ²⁶ U.S. Department of Transportation, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/21septvt/, Accessed 5/3//2024
- ²⁷ University of Michigan, Survey of Consumers, <http://www.sca.isr.umich.edu/>, Accessed 7/9/2024
- ²⁸ Bureau of Labor Statistics, Current Employment Statistics, Accessed 7/9/2024
- ²⁹ Jerry Hirsch, “[Auto Industry Has Soared Since 2010, Leading Economic Recovery](#),” Los Angeles Times, 1/3/14